

Final exam during academic year 2021/2022

**Please answer the following questions:**

**First question: Complete the following sentences: (15 marks):**

- 1- Many scientists rating animals to ....., depending on the type of food it eat.
- 2- Most example of Vertebrata are .....
- 3- Coelom is a cavity surrounds internal organs called .....
- 4- Freshwater fishes have ..... kidneys than marine fishes.
- 5- Hydrobiology Interested in studying .....
- 6- Fishes are the first vertebrates with .....
- 7- The most common forms of fish is ..... shape
- 8- Scales are absent in ..... fishes.
- 9- Extended fins on along the dorsal Line called .....fins.
- 10- Teeth are well developed in ..... fishes.
- 11- Of cartilaginous fish mouth position is .....
- 12- .....carp is the Fish carp spread only to the regular body peels.
- 13- ..... is the original home of most kinds of tilapia.
- 14- Thinlip Mullet fish growth rates ..... than Striped mullet
- 15- ..... fin of great significance in the swim fish during high speed.

**Second question -: Put a True or False by the statements with error correction (15 Marks)**

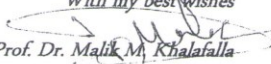
- 1- Fishes includes more than 32,000 species. ( )
- 2- Aristotle rightly called the "Father of modern taxonomy." ( )
- 3- Vertebrates make up about 40 % of all described animal species. ( )
- 4- In fresh water fishes: the kidney produce small amount of diluted urine. ( )
- 5- Super Class Agnatha lack jaws ( )
- 6- Fish anatomy is Study of the fish's body external installation. ( )
- 7- The fly fish occurs for dorsal fin. ( )
- 8- Closed type of branchial system is found in cartilaginous fishes. ( )
- 9- Lateral line system is very well developed in fishes. ( )
- 10- Bony fish skin is covered by placoid scales. ( )
- 11- Breeding carp started in Egypt since 2000 BC. ( )
- 12- Tilapia fish preferred water temperature between 15-20 degrees Celsius. ( )
- 13- Catfish grow and reproduce in warm fresh water. ( )
- 14- The main movement of the fish is done by Muscles. ( )
- 15- Migration for Reproduction is one of the puzzles that baffled scientists. ( )

**Third question: (12 marks)?**

- A- What are specialized sciences in the study of fish?
- B- What are different divisions and a variety of fish species?
- C- Natural factors that stimulate fish to emigrate?
- D- What are different types of migration for spawning?

**Fourth question: Explained by only drawing with writing data (8 marks).**

- 1- Osmoregulation in fresh water fishes
- 2- Gills Installation

With my best wishes  
  
Prof. Dr. Malik M. Khalafalla

جامعة كفر الشيخ - كلية علوم الثروة السمكية والمصايد

المستوى الأول

مادة : حقوق إنسان ومواطنة

٢٠٢٢ / ٦ / ١٥ م

الزمن : ساعتان

.....

أجب عن السؤالين الآتيين :

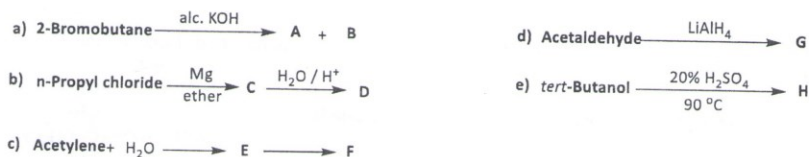
س ١ : اذكر خصائص ومبادئ حقوق الإنسان . :

س ٢ : اذكر خمسة آثار اجتماعية للفساد .



Answer the following questions:

[Question 1] write the following reactions assigning the structures and names of products A-H (16 M)



[Question 2] (29 M)

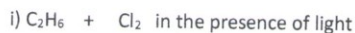
a) Explain WHY (using chemical reactions in need) (6 M)

- Acetylene has acidic character
- Ethanol has higher boiling point than ethane.
- Addition of HBr to propene 2-bromopropane not 1- bromopropane

b) Draw the chemical structure of the following systematic names (10 M)

- 2- Bromo-5-methyl-3-hexyne
- 3-Ethyl-2,4-pentadione
- 3-Chloro-4-hexenal
- 2, 3- Dichloro-1-butene
- Freon gases

c) Explain the mechanism of the following reaction (5 M)



d) Which of the following ions and molecules is electrophile & Nucleophile and WHY? (8 M)

A	B	C	D	E	F	G	H
$\text{CH}_3\text{C}^+$	$\text{H}_2\text{O}$	$\text{Br}^{(+)}$	$\text{H}_2\text{C}=\text{CH}_2$	$\text{BF}_3$	$\text{NO}_2^{(+)}$	$\text{NH}_3$	$\text{Br}^{(-)}$

[Question 3] Choose the correct answer of the following (15 M)

- Which one from the following is incorrect name for the organic compound  $\text{CH}_3\text{CH}_2=\text{CH}_2\text{CH}=\text{CH}_2$ ?  
(A) Amylene (B) 1,3-Pentadiene (C) 2,4-diPentene (D) Pentylene
- The molecular formula of 2,3,4-trimethylpentane is:  
(A)  $\text{C}_8\text{H}_{12}$  (B)  $\text{C}_8\text{H}_{10}$  (C)  $\text{C}_8\text{H}_{14}$  (D)  $\text{C}_8\text{H}_{18}$
- Haloform reaction of ethyl alcohol with an excess of iodine and sodium hydroxide afforded finally:  
(A) Sodium acetate and iodoform (B) Sodium formate and iodoform  
(C) Sodium formate and bromoform (D) Sodium acetate and bromoform
- Wurtz reaction of ethyl bromide in presence of sodium in ether gave:  
(A) n-Propane (B) A mixture of ethane and n-butane  
(C) n-Butane (D) A mixture of ethane, propane, and n-butane



5.  $C_2H_6O$  is the molecular formula of two organic compounds (1)... and this consider as....(2) isomerism
- (A) (1) Ethanol and methanol (2) constitutional configurational  
(B) (1) Ethyl alcohol and n-propanol (2) configurational  
(C) (1) Ethanol and dimethyl ether (2) constitutional configurational  
(D) n-Propanol and isopropanol (2) configurational
6. The correct name of the organic compound in right side is:
- (A) 3,3-Diethyl-5-isoprpyol-4-methyloctane  
(B) 4-Isopropyl-5-methyl-6,6-diethyloctane  
(C) 3,3-Diethyl-4-methyl-5-isopropyloctane  
(D) 3,3-Diethyl-5-propyl-4-methyloctane
7. Addition of HBr to 1-butene afforded:
- (A) 1-Bromobutane  
(B) 3-Bromobutane  
(C) 2-Bromobutane  
(D) A mixture of 1-bromobutane and 2-bromobutane
8. Addition of bromine to propene in carbon tetrachloride afforded:
- (A) 1-Bromopropane  
(B) 1,2-Dibromopropane  
(C) 2-Bromopropane  
(D) 1,3-Dibromopropane
9. Dehalogenation of 2,3-dibromobutane using Mg or Zn afforded finally:
- (A) 2-Butene  
(B) 1,3-Butdiene  
(C) 1-Butyne  
(D) 2-Butyne
10. Addition of HBr to 1-propene in presence of  $H_2O_2$  afforded:
- (A) 1-bromopropane  
(B) 2-bromopropane  
(C) 3-bromopropane  
(D) A mixture of 1- bromopropane and 2-bromopropane
11. Addition of two molecules of  $Cl_2$  to acetylene yielded finally:
- (A) 1,2-Dicloroethane  
(B) 1,1,2,2-Tetrachloroethane  
(C) 2,2-Dichloroethylene  
(D) 1,2-Dichloroethylene
12. The IUPAC name of organic compound in right is:
- (A) Isohexanol  
(B) 2,2-Diethyl ethanol  
(C) 3-Ethyl-4-butanol  
(D) 2-Ethyl butanol
13. The carbon atoms in Ethylene:
- (A) All are  $sp^3$  hybridized  
(B) All are  $sp^2$  hybridized  
(C) All are sp hybridized  
(D) One carbon is sp and other is  $sp^2$  hybridized
14. The organic compound  $(CH_3)_3C-OH$  is considered as:
- (A) Secondary alcohol  
(B) Tertiary alcohol  
(C) Monohydric alcohol  
(D) Both "A" and "C"
15. Removal of carbon dioxide from organic molecule is called:
- (A) Carboxylation  
(B) Decarboxylation  
(C) Dehydration  
(D) Hydroxylation



Kafrelsheikh University  
Faculty of Aquatic and Fisheries Sciences  
Course: **principles of aquaculture**  
Academic level: 1<sup>st</sup> year, 2<sup>nd</sup> semester  
Program: Aquaculture



Date: 22/6/2022  
Time: 2 hours  
Total marks: 50 mark  
Academic number:  
Student name:

### Q. I. (30 mark)

#### A. Complete the following sentences: (10 marks, 2 for each point)

- 1- Embankment slope of Loamy silt soil dyke is .....
- 2- .....is process of removing decomposed materials and feed remnant from pond bottom.
- 3- Highly alkaline water should be treated with .....for proper aquaculture.
- 4- silver carb is suffering from consumer refusal due to .....
- 5- ..... is process of aquatic harvest from large water bodies with help of population dynamics.

#### B. Compare between each of the following: (10 marks, 5 for each point)

- 1- Aquaculture systems (stocking density).
- 2- Primary and secondary sources of fish infection

#### C. Write short notes on each of the following: (10 marks, 5 for each point)

- 1- Materials used for organic dry ponds fertilisation.
- 2- Benefits and times of fish sampling during production cycle

### Q. II. (20 mark)

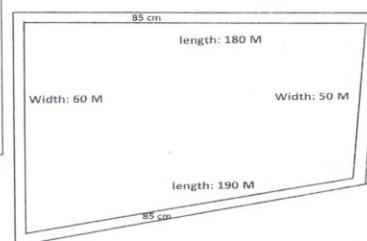
#### A. Answer the following with (✓) or (x) and correct the wrong one: (10 marks, 2 for each point)

1. The fish should have the same feeding behaviours in polyculture farm ( ).
2. Linear type race-way is better than lateral type fish farming ( ).
3. Testing of soil suitability for pond construction is performed throughout ground water, water permeability and squeeze tests respectively ( ).
4. The dyke crest and slope should be free from plants or grasses ( ).
- 5- Rivaldi valve control the height of water column in fish pond ( ).

#### B. Please, read the following and answer the question: (10 marks)

You are admitted to visit a fish farm. The pond was designed according to the following diagram.

After careful study of the pond, please mention only five faults in this pond construction.



ALL THE BEST  
*Radi A. Mohamed*





2. Lyases enzyme class	Oxidoreductase enzymes class
3. LDL	HDL

**Part 2: Give reasons: (6 Marks)**

A. Tyrosine is a nonessential amino acid but, in some people, it is essential.

.....  
.....  
.....

B. Globular protein is water soluble while fibrous protein is insoluble, with example for each.

.....  
.....  
.....  
.....





C. The tRNA have a clover leaf shape, while mRNA is straight

**Q3. Put a circle around the correct answer of the followings: [20 Marks]**

- Which of the following types of molecules is found in genetic material?  
a. Sucrose                      b. enzymes                      c. lipids                      d. nucleotides
- The functional group that responsible for the reducing characters of glucose is found on the carbon atom number.....  
(a) 6                      (b) 2                      (c) 1                      (d) 5
- The branched component of starch is  
a. Amylose                      b. Amylopectin                      c. Dextrin                      d. Glucose
- Glycogen contains  
a.  $\alpha$  1,4 and  $\alpha$  1,6 glyosidic linkage                      b.  $\alpha$  1,6 glyosidic linkage  
c.  $\alpha$  1,4 and  $\beta$  1,6 glyosidic linkage                      d.  $\beta$  1,4 and  $\beta$  1,6 glyosidic linkage
- Which of the following is not a compound lipid?  
a. Lectin                      b. Cephalin                      c. Waxes                      d. Phospholipids
- Which among the following is saturated fatty acid?  
(a) Stearic                      (b) Oleic                      (c) Linolenic                      (d) Aspartic
- The main lipid constituent of the cell membrane are  
a. Cholesterol                      b. Triglycerides                      c. Glycolipids                      d. Phospholipids
- Nor-epinephrine* is derived from amino acids.....and used as .....  
A. histidine, steroid hormone                      B. arginine, sex hormones                      C. tyrosine, neurotransmitter
- At neutral pH, a mixture of amino acids in solution would be predominantly:  
(A) Dipolar ions                      (B) Nonpolar molecules                      (C) Positive and monovalent                      (D) Hydrophobic
- An example of purine base is  
a. Uracil                      b. Thiamin                      c. Cytosine                      d. Adenine
- Which carbon of the pentose is in ester linkage with the phosphate in a nucleotide?  
a. C4                      b. C5                      c. C3                      d. C2





12. Nucleotides in a single strand are linked to one another in nucleic acid by  
a. hydrogen bond      b. glycosidic linkage      c. disulphide bond      d. phosphodiester bond
13. Anticodon present in  
a. DNA      b. rRNA      c. mRNA      d. tRNA
14. Gene is  
a. mRNA      b. anticodon      c. a segment of DNA      d. a complete DNA molecule
15. Where do the substrates attach to an enzyme?  
a. peptide bond      b. ring binding site      c. active site      d. enzymatic site
16. The simplest amino acid is  
a) Proline      b) methionine      c) glycine      d) serine
17. What is the function of ATP, adenosine triphosphate?  
a. message carrier      b. store and transport energy      c. make proteins      d. breakdown sugars
18. The true statement about solutions of amino acids at optimum pH is:  
(A) All amino acids contain both positive and negative charges  
(B) All amino acids contain positively charged side chains  
(C) Some amino acids contain only positive charge  
(D) All amino acids contain negatively charged side chains
19. Which of the following are found in nucleotides of DNA and RNA respectively?  
a. deoxyribose and ribose      b. proteins and enzymes  
c. Purine and pyrimidine      d. sugars and starches
20. In many proteins the hydrogen bonding produces a regular coiled arrangement called  
(A)  $\alpha$ -helix      (B)  $\beta$ -Sheet      (C) Both (A) and (B)      (D) None of these

*End of exam*

*With my best wishes*

*Kafrelsheikh University*  
*Faculty of Aquatic and Fisheries Sciences*



*Academic year: First level*  
*Course: aquaculture Engineering*

*Exam date: 26 /6/2022*

*Final Exam (winter semester)*

*Time : 2 hours*

*Academic year 2021 – 2022*

*Full mark: 50 degree*

*Academic student number: .....*

*Student name: .....*

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**Examiners committee: Prof. Dr. Mona Morgan Kassem**

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**Answer the following questions :-**

**First Question:-**

**Degree (30)**

**1. Describe in the diagram:**

- a) The types of heat exchangers?
  - b) Construction and function of a heat pump?
  - c) The types of aerators?
  - d) Design of a re-use system in Aquaculture?
  - e) Types of closed production units?
2. Mention in the points Physical and chemical aspects of water quality?
  3. Explain in short sources of oxygen?

**Second Question:-**

**Degree (20)**

1. Explain in points factors regulates the growth of the bacterial culture?
2. Mention in points types of biological filter?
3. Explain in points advantages and disadvantages of Recirculating Aquaculture?
4. Mention in points types of Mechanical Filter and Biological Filter?
5. Explain in points Types of feeding equipment?

**Good Luck ,,,,,,,,,,,,,,**